REMARKS

The Applicant has filed the present Response in reply to the outstanding Official Action of May 10, 2005, and the Applicant believes the Response to be fully responsive to the Official Action for reasons set forth below in greater detail.

At the onset, the Applicant would like to note that Claims 1, 3, 4, 8, 11-19, and 21-24 have been amended herewith. Specifically, Claim 1 has been amended to recite that a sensor and a transmitting device for transmitting sensing data acquired by the sensor to an external device outside the body cavity is included in the capsule medical device. Claim 1 is further amended to define the phrase "the received data", which is generated by external signal processing of the sensing data. Claim 4 has been amended to clarify the type of sensor that is recited in Claim 1. Claim 8 has been amended to clarify the structure and function of the force acquiring device. Specifically, the force acquiring device functions to detect movement of the capsule and has a sensor which is a force sensor.

Claim 11 has been amended to incorporate the subject matter of Claim 20, specifically, reciting a correction amount calculating circuit. Accordingly, Claim 20 has been cancelled. Claim 11 has been further amended changing the term "information" to "data parameters". Claims 12-19 have been amended to correspond to amended Claim 11. Claims 21-24 have been amended to add the step of operating the capsule medical device on the basis of the data stored in the storage device.

Additionally, the Applicant would like to note that Claims 25-28 have been added to the application. Applicant respectfully requests that the Examiner examines new Claims 25-28.

No new matter has been added by the claim amended or the new claims. For example, support therefor can be found at pages 16-18 and 22-25 of the application.

Applicant respectfully submits that all of the claims of the instant application are patentably distinct from the cited references.

In the outstanding Official Action, the Examiner rejected Claims 1-7, 9-16, 18, 19, and 21-24 under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent Application Publication No, 2002/0103417 (hereinafter "Gazdzinski").

Specifically, with respect to Claims 1, 11, 22 and 24 the Examiner avers that Gazdzinski teaches a medical capsule device that includes a receiving device for receiving data from outside the capsule and a storage device wherein the data can be rewritten on the basis of the data received by the receiving device.

Applicant respectfully disagrees with the Examiner and traverses the rejection with at least the following analysis.

Gazdzinski fails to teach or suggest each and every element of the claims. With respect to independent Claims 1, 11, 21, 23, and 24, the reference fails to teach how each

element of the medical capsule "operates on the basis of information stored in the storage device", as specifically recited in the claims.

For support of the Examiner's assertion, the Examiner quotes the summary of the invention, "A flash memory of the DSP may also be modified by way of program data transmitted to the probe via the data transfer sub-circuit." See page 2, paragraph 0015.

According to the reference, the probe's memory is used to facilitate processing and storage of data collected by the sensor and "control the probe as described below." See paragraph 0067. This is a general teaching that the probe's memory contains instructions for some operation of the probe. However, the reference is silent as to how the various functions of the probe are controlled by the instructions stored in memory. The reference is devoid of any other statements regarding any interplay between the memory and the CCD array, except that memory is used for storage of image data.

In fact, in a later portion of the specification, the reference states that the memory must be able to store a sufficient amount of data to act as a buffer prior to transmission of data by the data transfer sub-circuit to an external device and to store at least one frame obtained by the CCD array. There is no mention or suggestion that the memory must be able to **store control instructions.** Additionally, the reference fails to state what information or how the information is transmitted to the probe to update the memory.

Thus, while the Examiner interprets the above-identified statement at paragraph 0015, as a teaching of a storage device that allows data to be rewritten based upon data

received by the receiving device, the reference as a whole neither explains what the program data is nor does the reference teach how each element of the probe operates on the basis of information stored in the storage device.

Accordingly, Gazdzinski does not teach all of the features performed in the memory device disclosed by the instant application and therefore, the reference does not anticipate independent Claims 1, 11, 21, 23, and 24.

Additionally, with respect to Claim 11, none of the cited references teach the limitation of "a correction amount calculating circuit for generating adjustments to said image data parameters transmitted from the external device to the capsule medical device, on the basis of data transmitted by the capsule medical device and received by the external device."

In a disclosed embodiment of the invention, the specification describes that stored control instructions are continuously updated based upon image data that the capsule senses. This image data is transmitted to an external device. The external device processes the image data, including an image position, color balance and brightness, and transmits adjustment parameters to the capsule while the capsule is operational. The adjustment parameters are calculated using **correction amount calculating circuits** 38 and 39. Therefore, the operator or user can continuously monitor and control the operational state of the capsule by rewriting instructions in memory.

Specifically, the external device can transmit commands to the image drive and control circuit directly, thereby controlling the operations of the capsule by means of these commands, in addition to which it is also able to implement settings for changing the operational parameters of the capsule by instructing a rewrite of the parameter data contained in memory.

For example, in the present invention, the sensed image data is transmitted to the external device via an antenna. The image data is then supplied to an image position detecting circuit 36 and a color balance and brightness circuit 37, which detect the image position and color balance and brightness.

After detection, the detected signals are sent to a correction amount calculation circuit, which calculates a required correction amount. Once calculated, these values are modulated and transmitted to the capsule via a radio antenna. The image and drive control circuit receives these values, stores them in memory and causes the sensor and illumination circuit to adjust. Some of these correction parameters include a horizontal start position, a horizontal end position, a vertical start position, and a vertical end position.

Upon receipt of these parameters, the image sensor detects and transmits only image data inside a square shaped image region determined by the position data sent by the external device. By using this continuous external control, it is possible to simplify the adjustments required when assembling the objective optical system and image sensor in the capsule. Additionally, the external device sends to the capsule corrective amounts,

which is stored (rewritten) in memory and is sent to the illumination circuit. The illumination circuit then adjusts the luminous amount based upon the control information.

Gazdinski fails to teach this limitation and Glukhovsky does not cure this deficiency. Glukhovsky teaches a method and system for controlling a capture and display rate for an *in vivo* camera. Specifically, the reference teaches a means for adjusting or changing the number of images or frames based upon image data. The image processor determines the similarity between at least two frames and the frame display rate is based upon the similarity of the frames. The frame display rate is slower when the frames are generally different and faster when the frames are generally similar. Additionally, the frame capture rate can be varied. The data processor determines the data capture rate based upon data received by the sensor in the in vivo camera. When the camera is moving slowly, fewer frames are needed, when the camera is moving faster, more frames are needed.

Glukhovsky only suggests modifying the capture rate. There is no disclosure or suggestion of modifying the image position, such as a horizontal start position, a horizontal end position, a vertical start position, a vertical end position or brightness and color or color balance as disclosed in the instant specification. Therefore, Glukhovsky does not teach the claimed correction amount calculating circuit.

Gazdzinski in view of Glikhovsky do not teach or suggest rewriting control parameters in memory based upon an image detected by the capsule, which is then sent to the external device for processing and correction calculation where the control

parameters are a function of the sent image. Accordingly, Claim 11 is pententably distinct from the cited reference. Claims 2-7, 9, 10, 12-16, 18-19, and 22 are patentably distinct based upon their dependency from independent Claims 1, 11, 21, and 24, respectively.

Therefore, Applicant submits that Claims 1-7, 9-16, 18-19 and 21-24 are patentably distinct from these references.

With respect to Claims 8, and 17, the Examiner rejected these claims under 35 U.S.C. § 103(a) as being unpatentable over Gazdzinski in view of U.S. Patent Pub. No. 2004/0106849 Cho et al. (hereinafter "Cho").

Applicant respectfully disagrees with the Examiner's rejection and traverses with at least the following analysis. In addition to the above-identified reasons distinguishing Claim 1 and 11 from Gazdzinski, Claims 8 and 17 are further patentably distinct from the combination of Gazdzinski and Cho because the references fail to teach a force acquiring device for detecting movement of the capsule. Cho describes a pressure sensor that is used to detect inner pressure of the patient's body, whereas and in stark contrast, the force acquiring device is used for detecting movement of the capsule.

Accordingly, the combined teachings of Gazdzinski and Cho fail to teach, suggest or render obvious each and every limitation of Claims 8 and 17. Therefore, these claims are patentably distinct from the cited references.

Additionally, new Claims 25-26 are patentably distinct from the cited references. None of the references teach that image detection parameters are modified based upon said detected movement of said capsule or that said external device transmits a command for switching an imaging mode based on a position of said capsule medical device in the body cavity. In a disclosed embodiment of the invention, the specification states that the mode of operation for the image sensor is changed based upon the location in the body cavity. Specifically, once a state has been achieved where the region of the part inside a human body cavity that is to be investigated by means of the capsule 3 is being illuminated and imaged, then it is possible to change the operational state of the capsule 3, from an external device 4, for example.

More specifically, commands for switching modes as illustrated in Fig. 3 can be supplied by operating the input circuit 41 of the external device 4, whereby the imaging mode can be changed from the single-frame imaging mode shown in Fig. 11 to a continuous imaging mode. See page 23. Accordingly, the reference fail to teach, suggest or render obvious each and every limitation of these Claims.

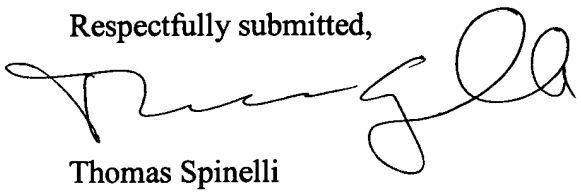
Furthermore, new Claims 27-28 are patentably distinct from the cited references based at least upon their dependency from Claim 11.

For all the foregoing reasons, the Applicant respectfully requests that the Examiner to withdraw the rejections of independent Claims 1, 11, 21, 23, and 24 pursuant to 35 U.S.C. § 102(a). Furthermore, the Applicant respectfully requests that the Examiner to withdraw rejections of dependent Claims 2-7, 9, 10, 12-19, and 22 based at

least on their respective dependencies, whether direct or indirect, from independent Claims 1,11, and 21. Additionally, the Applicant respectfully requests that the Examiner withdrawn the rejections of Claims 8 and 17 pursuant to 35 U.S.C. § 103(a). Lastly, the Applicant respectfully requests that the Examiner allow new Claims 25-28.

In conclusion, the Applicant believes that the above-identified application is in condition for allowance and henceforth respectfully solicits the Examiner to allow the application. If the Examiner believes a telephone conference might expedite the allowance of this application, the Applicant respectfully requests that the Examiner call the undersigned, Applicant's attorney, at the following telephone number: (516) 742-4343.

Respectfully submitted,



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